### **MODULE VII**

Post-Closure Conditions and
Post-Closure Site Management Plans
for
Closed Hazardous Waste Management Units
(HWMUs) and Solid Waste
Management Units (SWMUs)

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#### LIST OF FORMS

#### (POST-CLOSURE SITE INSEPCTION FORMS)

- FORM A General Post-Closure Site Inspection Checklist, Industrial Closure/Industrial Use Sites
- FORM B General Post-Closure Site Inspection Checklist, Landfill Sites
- FORM C Part 1– General Post-Closure Site Inspection Checklist, HWMU 2 Waste Pile at North End of Granite Peak
- FORM C Part 2 Vegetative Cover Post-Closure Inspection Checklist, HWMU 2 Waste Pile at North End of Granite Peak
- FORM C Part 3 Emergency Response Post-Closure Inspection Checklist, HWMU 2 Waste Pile at North End of Granite Peak
- **FORM D GMA Change Request Form**
- **FORM E Excavation Coordination Permit Form**

#### **SUPPLEMENTS**

**Supplement 1 – Salinity Plan** 

#### LIST OF ATTACHMENTS

| <u>DESCRIPTION</u>                 | ATTACMENT NO. |
|------------------------------------|---------------|
| General Facility Description       | 1             |
| HWMU 7 Final Post- Closure Plan    | 2             |
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#### MODULE VII SPECIFIC POST-CLOSURE FACILITY CONDITIONS AND STANDARDS

#### VII.A. PURPOSE

This Permit describes the post-closure requirements for the Solid Waste Management Units (SWMU) and Hazardous Waste Management Units (HWMU) listed in Table VII-1. The modules of this Permit contain general requirements, applicable to all sites. Site-specific requirements, for each SWMU or HWMU, are described in the Attachments and Tables. A list of post-closure requirements and a facility site description is provided in each Attachment.

#### VII.B. <u>DEFINITIONS</u>

- VII.B.1. For purposes of this Permit, terms used herein shall have the same meaning as those in Utah Administrative Code (UAC) R315-1 through R315-101, unless this Permit specifically provides otherwise. Where terms are not defined in the regulations or the Permit, then the meaning associated with such terms, shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.
- VII.B.2. "ACL" means Alternative Concentration Limit
- **VII.B.3.** "**Approved**" means written approval from the Executive Secretary of the Utah Solid and Hazardous Waste Control Board.
- VII.B.4. "Board" means the Utah Solid and Hazardous Waste Control Board.
- VII.B.5. "CDQMP" means the Chemical Data Quality Management Plan.
- VII.B.6. "Days" means Calendar Days.
- **VII.B.7.** "**Dugway**" means Dugway Proving Ground, or "the Facility" (the "Permittee").
- **VII.B.8. "Environmental Media"** means air, soil and water and other non-waste like media of natural origin as specified by the Executive Secretary.
- **VII.B.9.** "Environmental Media Treatment System" means all the parts of the system that are used to extract, treat, and/or inject environmental media.
- **VII.B.10. "Environmental Media Treatment Unit"** means all parts of the treatment system where environmental media is treated to remove hazardous constituents.
- **VII.B.11. "Executive Secretary"** means the Executive Secretary of the Utah Solid and Hazardous Waste Control Board.

- **VII.B.12. "Facility"** means all contiguous land and structures, other appurtenances and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, and disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).
- VII.B.13 "Groundwater Management Area (GMA" is a geographical area with certain hydrogeological conditions. There are four GMAs at Dugway including Ditto, Carr, English Village and Downrange, and each GMA includes several HWMUs and SWMUs...
- **VII.B.14.** "Hazardous Waste Constituent" means the chemicals listed in 40 Code of Federal Regulation (CFR) §261 Appendix VIII and IX.
- VII.B.15. "Hazardous Waste" means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, infectious characteristics may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or pose a substantial present or potential hazardous to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed (Reference 40 CFR §261.3).
- **VII.B.16.** "Hazardous Waste Management Unit (HWMU)" means those HWMUs listed in Module IV, Table 1 of the Dugway Storage Permit.
- **VII.B.17.** "Operating Record" means all monitoring and operational data reports maintained by Dugway Proving Ground or Contract Facility Operators.
- **VII.B.18. "Permit"** means a written approval to operate a hazardous waste treatment, storage, or disposal facility within the State of Utah.
- **VII.B.19. "Permittee"** means the owner/operator of a facility responsible for implementation of the conditions of this Permit.
- VII.B.20. "Post-Closure Land Use Tracking Plan" is a plan which includes a process for tracking land use, maintenance of institutional controls, and excavation and management of environmental media for all Post-Closure sites.
- VII.B.21. "Post Closure Permit" means written approval of Standards Applicable to Owners and Operators of Closed Hazardous Waste Management Units and Solid Waste Management Units concerning Post-Closure care and use of property with in the State of Utah.
- VII.B.22. "Precipitation" means rain, snow, sleet, or hail.
- **VII.B.23.** "**QAPP**" means Quality Assurance Performance Plan.
- **VII.B.24.** "R315", or "Utah Administrative Code (UAC) R315", means R315 of the Utah Administrative Code.

- VII.B.25. "Release" means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes (including hazardous waste constituents) into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).
- VII.B.26. "Solid Waste Management Unit (SWMU)" means an area, which has become contaminated through routine and systematic, releases of hazardous wastes or hazardous constituents and a Post Closure Permit was not obtained or a removal action completed as specified by UAC R315-3-1.1(e).
- **VII.B.27.** "Submit" or "Submission" means to be received by hand delivery, mail, certified mail, express mail, facsimile, and/or computer diskette and logged in at the offices of the Division of Solid and Hazardous Waste.
- **VII.B.28.** "Restoration Advisory Board (RAB)" is a committee/board of representatives from the Department of Defense, U.S. Environmental Protection Agency, Utah Department of Environmental Quality, local government, and public representatives of the affected community. This committee/board meets several times a year, to review, comment, and provide input on environmental restoration activities at Dugway Proving Ground.
- **VII.B.29.** "Utah Registered Professional Engineer" means any individual who is registered as a Professional Engineer by the Utah Division of Professional Licensing and is qualified by experience and education in the appropriate engineering field.

#### VII.C. EFFECT OF PERMIT

VII.C.1. The Permittee shall inspect, monitor and maintain any landfill, caps, fences, signs, treatment systems or other items at the HWMUs and SWMUs listed in Table VII-1 and as specified in the Attachments in accordance with the conditions of this Permit. Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local laws or regulations.

#### VII.C.2. Proper Operation and Maintenance

VII.C.2.a The Permittee shall at all times properly operate and maintain all facilities and systems of treatment, control and monitoring (and related apparatus) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the Permit.

#### VII.C.3. Reporting Planned Changes

**VII.C.3.a.** The Permittee shall give notice to the Executive Secretary 60 days prior to any planned alteration to the closed HWMU or SWMU or permitted activity.

#### VII.C.4. Monitoring and Records

- VII.C.4.a. Samples and measurements taken for the purpose of monitoring shall be accurate and representative of the monitored activity. The method used to obtain representative samples shall be an appropriate method from UAC R315-50-6 or as specified or modified by this Permit. Laboratory methods shall be those specified in the *Dugway Resource Conservation Recovery Act (RCRA) Part B Hazardous Waste Storage Permit (Appendix A; Quality Assurance Program Plan (QAPP)) and the Dugway Proving Ground Chemical Data Quality Management Plan (most current version)* or an equivalent method as specified in this Permit. The analysis of all samples, except chemical agents, shall be conducted by State certified laboratories.
- VII.C.4.b. Pursuant to UAC R315-3-3.1(j), records of monitoring information shall specify:
- **VII.C.4.b.i.** The date(s), exact place(s), and time(s) of sampling or measurements;
- **VII.C.4.b.ii.** The name(s), title(s), and affiliation(s) of the individual(s) who performed the sampling or measurements;
- VII.C.4.b.iii. The dates the analyses were performed;
- **VII.C.4.b.iv.** The individual(s) who performed the analyses;
- VII.C.4.b.v. The analytical techniques or methods used; and
- VII.C.4.b.vi. The results of such analyses, including the Quality Control/Quality Assurance summary.
- VII.C.4.c. The Permittee may substitute analytical methods, which are equivalent of superior to those specifically approved for use in this Permit by modifying the Permit in accordance with UAC R315-3-4.3. The modification request shall provide information, in terms of sensitivity, accuracy, and precision, demonstrating the proposed method(s) requested to be substituted.
- VII.C.4.d. The Permittee shall retain as part of the Operating Record all records or reports required by this Permit for the duration of the post-closure period. This period may be extended by request of the Executive Secretary at any time and is automatically extended during the course of any unresolved enforcement action.

#### VII.C.5. Reporting Requirements

VII.C.5.a The Permittee shall report to the Executive Secretary any non-compliance with the Permit. Reporting shall not excuse any noncompliance. Reporting shall include, at a minimum, the following:

- VII.C.5.b Information concerning the non-compliance, which may endanger public drinking water supplies or human health or the environment. Such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances (UAC R315-3-3.1(1)(6)(i)). The description of the occurrence and its cause shall include:
- VII.C.5.b.i. Name, address, and telephone number of the Permittee;
- VII.C.5.b.ii. Name, address, and telephone number of the individual making the report;
- VII.C.5.b.iii. Date, time and type of incident;
- VII.C.5.b.iv. Description and quantity of materials involved;
- **VII.C.5.b.v.** The extent of injuries, if any;
- **VII.C.5.b.vi.** An assessment of the actual or potential hazards to the environment and human health outside the facility, where this is applicable; and
- VII.C.5.b.vii. Estimated quantity and disposition of recovered material that resulted from the incident.
- VII.C.5.c. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances (UAC R315-3-3.1(l)(6)(iii)). The written submission shall contain, at a minimum; a description of the non-compliance and its cause; the periods of non-compliance (including exact dates and times); whether the non-compliance has been corrected; and if not, the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance. The Permittee need not comply with the five day written notice requirement if the Executive Secretary waives the requirement and the Permittee submits a written report within 15 days of the time the Permittee becomes aware of the circumstances.
- VII.C.5.d. Information concerning a non-compliance, which does not endanger human health or the environment shall be provided to the Executive Secretary in writing at the time monitoring reports are submitted (UAC R315-3.1(1)(10). The description of the occurrence shall include, but not be limited to, all items as listed in Conditions VII.C.5.a.i. through VII.C.5.a.vii. The written submission shall contain, at a minimum; a description of the non-compliance and its cause; the periods of noncompliance (including exact dates and times); whether the non-compliance has been corrected; and if not, the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance.

#### VII.D. SIGNATORY REQUIREMENT

All applications, reports or other information requested by or submitted to the Executive Secretary shall be signed and certified as required by UAC R315-3-2.2. The Dugway Commander shall sign all Permit applications in accordance with UAC R315-3-2.2(a)(3).

#### VII.E. DOCUMENTS TO BE MAINTAINED AT FACILITY SITE

- **VII.E.1.** The Permittee shall maintain for the duration of the post-closure care period, the following documents and amendments, revisions and modifications to these documents:
- VII.E.1.a. Post-closure Permit and any and all of the amendments.
- VII.E.1.b. Post-closure monitoring records, to include monitoring of environmental media and analytical results, any environmental media treatment system unit records and analytical results, and records of the effectiveness of any environmental media treatment systems, as required by this Permit.
- VII.E.1.c. Certification of Closure for each HWMU or SWMU, as required by UAC R315-7-14.
- VII.E.1.d. Reserved
- VII.E.1.e. Inspection schedules as required by UAC R315-8-2.6(b)(2) and this Permit.
- **VII.E.1.f.** Operating Records required by UAC R315-8-5.3 and this Permit.
- **VII.E.1.g.** Copies of all required submittals.

#### VII.F. REQUIRED SUBMISSIONS

- VII.F.1. General required submissions are listed in the Compliance Schedule in Table VII-2. Specific submissions for each closed HWMU are presented in the Attachments of this Permit.
- VII.F.2. All reports, modifications, notifications, or other submittals that are required to be provided to the Executive Secretary under these Permit provisions shall be sent by certified mail or other means with proof of delivery to:

**Executive Secretary** 

Utah Solid and Hazardous Waste Control Board P.O.B. 144880 Salt Lake City, UT 84114-4880.

- VII.F.3. All hand-delivered submissions shall be made during normal business hours, at the Martha Hughes Cannon Building, Fourth Floor, 28 (8 N 1460 W, Salt Lake City, Utah.
- VII.F.4. Within 60 days of issuance of this Permit, the Permittee shall submit a Post-Closure Land Use Tracking Plan (LUTP) for approval by the Executive Secretary. This plan shall include a process for tracking land use, maintenance of institutional controls, and excavation and management of environmental media for all sites listed in Table VII-1.

#### VII.G. HAZARDOUS WASTE MANAGEMENT UNITS UNDER THIS PERMIT

The HWMUs and SWMUs under this Post-Closure Permit are listed in Table VII-1.

Table VII-1: Post Closure Permit HWMU's and SWMUs.

| Attachment, HWMU/SWMU Number, and Location Name                                   | HWMU/SWM<br>Monument Co<br>UTM NAD 83 | ordinates |
|---|---------------------------------------|-----------|
|   | X                                     | Y         |
| Attachment 2 - HWMU 7 – Brine Vats West of Granite Peak                           | 1128351                               | 7216757   |
| Attachment 3 - HWMU 2 – Waste Pile at the North End of Granite Peak               | 1135980                               | 7237805   |
| Attachment 4 - HWMU 33 – Baker Area Sewage Lagoon                                 | 1209103                               | 7241880   |
| Attachment 5 - HWMU 124 - Carr Facility Old 3X to 5X Incinerato Pad               | 1252249                               | 7232190   |
| Attachment 6 - HWMU 128 - Pesticide Storage Building, Septic Tank and Drain field | 1290753                               | 7248502   |
| Attachment 7 - HWMU 36 - Imhoff Tank System                                       | 1238985                               | 7238003   |
| Attachment 8 - HWMU 38 - Ditto Decontamination Pad                                | 1240748                               | 7236153   |
| Attachment 9 - HWMU 47 - Former English Village Sewer Lagoon                      | 1281777                               | 7244858   |
| Attachment 10 HWMU 63-2 - CARR Facility Septic Tank and Leachfield                | 1250622                               | 7232898   |
| Attachment 11 - HWMU 169 – Baker Wash Rack  | 1208999                               | 7240545   |
| Attachment 12 – SWMU 21 – Disposal Site N. Camelback Ridge                        | 1230464                               | 7230361   |
| Attachment 13 - HWMU 37 - Landfill West of Ditto Tech Center                      | 1239720                               | 7236812   |
| Attachment 14 – HWMU 43 – Old Landfill for English Village                        | 1294390                               | 7242683   |
| Attachment 15 – HWMU 90 – Burn Area East of Carr Facility                         | 1256374                               | 7232072   |
| Attachment 16 – HWMU 163 – Fire Training Area                                     | 1242408                               | 7238749   |
| Attachment 17 – SWMU 056 – Waste Pile/Landfill/Storage Site,<br>East of Carr      | 1261694                               | 7231497   |
| Attachment 18 – SWMU 194 - Landfills, East of Carr                                | 1255991                               | 7233066   |
| Attachment 19SWMU 207 - Disposal Trenches and Mounds, Car                         | 1253667                               | 7233464   |
| Attachment 20 – SWMU 213 - Burial Trench, Target S                                | 1169631                               | 7206541   |

| Attachment 21 – SWMU 215 - Pigeon Loft Trenches, Downwind Grid     | 1176072 | 7212929 |
|--|---------|---------|
| Attachment 22 – SWMU 200 Landfill, SE of Carr                      | 1255878 | 7229462 |
| Attachment 23 – SWMU 054 - Landfill/Disposal Area(s), East of Carr | 1254379 | 7232152 |

#### VII.H. COMPLIANCE SCHEDULE

Reserved

Table VII-2

| Submittal                     | Due Date                           |
|-------------------------------|------------------------------------|
| Post-Closure Management Plan. | Within 60 days of Permit issuance. |

#### VII.I. POST-CLOSURE MAINTENANCE AND MONITORING

The Permittee shall inspect, maintain, monitor and track activities at the HWMUs and SWMUs listed in Table VII-1 throughout the post-closure care period in a manner that will ensure detection of a release of hazardous waste, hazardous waste constituents, leachate, contaminated runoff or hazardous waste decomposition products to the air, soil, groundwater, or surface water from the closed unit, and in a manner that will prevent unauthorized site use or unauthorized use of any excavated soil. The Permittee shall maintain any and all inspection, monitoring, security, treatment and other necessary equipment throughout the post-closure care period in a manner that will ensure detection of a release from the closed unit and minimize the possibility of fire, explosion, or any sudden or non-sudden release of hazardous waste constituents to air, soil, surface water, or groundwater which could threaten human health or the environment.\

The Permittee shall follow the existing Dugway excavation permit coordination process prior to initiating any intrusive actives at HWMU and SWMU. Applications for excavation permits shall be documented using form E, Excavation Coordination Permit Form.

#### VII.J. <u>SECURITY</u>

**VII.J.1.** Specific security requirements for each HWMU listed in Table VII-1 are presented in the corresponding Attachments of this Permit.

#### VII.K. GENERAL INSPECTION REQUIREMENTS

VII.K.l. The Permittee shall follow the inspection schedules as specified in the corresponding Attachments for each site under this Permit. All records of inspections and remedial actions shall be retained in the Operating Record, as indicated in Condition I.G.13.c, throughout the post-closure care period.

VII.K.2. Inspections shall be documented on required forms as provided in this Module and as indicated in the corresponding attachments and as summarized in Table VII-3.

Table VII-3 - Index for General Site Inspection Checklists Dugway Proving Ground, Utah Post-Closure Plan

| Module VII     | Site      | Type of Closure | Requ     | ired Inspection Form     |  |  |  |  |  |  |  |  |
|----------------|-----------|-----------------|----------|--------------------------|--|--|--|--|--|--|--|--|
| Attachment No. | Site      | Type of Closure | Form No. | Form Type                |  |  |  |  |  |  |  |  |
| 2              | HWMU 7    | Industrial Use  | A        | General - Industrial Use |  |  |  |  |  |  |  |  |
| 3              | HWMU 2    | Landfill        | С        | Site Specific: HWMU 2    |  |  |  |  |  |  |  |  |
| 4              | HWMU 33   | Industrial Use  | A        | General - Industrial Use |  |  |  |  |  |  |  |  |
| 5              | HWMU 124  | Industrial Use  | A        | General - Industrial Use |  |  |  |  |  |  |  |  |
| 6              | HWMU 128  | Industrial Use  | A        | General - Industrial Use |  |  |  |  |  |  |  |  |
| 7              | HWMU 36   | Industrial Use  | A        | General - Industrial Use |  |  |  |  |  |  |  |  |
| 8              | HWMU 38   | Industrial Use  | A        | General - Industrial Use |  |  |  |  |  |  |  |  |
| 9              | HWMU 47   | Industrial Use  | A        | General - Industrial Use |  |  |  |  |  |  |  |  |
| 10             | HWMU 63-2 | Industrial Use  | A        | General - Industrial Use |  |  |  |  |  |  |  |  |
| 11             | HWMU 169  | Industrial Use  | A        | General - Industrial Use |  |  |  |  |  |  |  |  |
| 12             | SWMU 21   | Landfill        | В        | General – Landfill       |  |  |  |  |  |  |  |  |
| 13             | HWMU 37   | Landfill        | В        | General – Landfill       |  |  |  |  |  |  |  |  |
| 14             | HWMU 43   | Landfill        | В        | General – Landfill       |  |  |  |  |  |  |  |  |
| 15             | HWMU 90   | Landfill        | В        | General – Landfill       |  |  |  |  |  |  |  |  |
| 16             | HWMU 163  | Industrial Use  | A        | General - Industrial Use |  |  |  |  |  |  |  |  |
| 17             | SWMU 56   | Landfill        | В        | General – Landfill       |  |  |  |  |  |  |  |  |
| 18             | SWMU 194  | Landfill        | В        | General – Landfill       |  |  |  |  |  |  |  |  |
| 19             | SWMU 207  | Landfill        | В        | General – Landfill       |  |  |  |  |  |  |  |  |
| 20             | SWMU 213  | Landfill        | В        | General – Landfill       |  |  |  |  |  |  |  |  |
| 21             | SWMU 215  | Landfill        | В        | General – Landfill       |  |  |  |  |  |  |  |  |
| 22             | SWMU 200  | Landfill        | В        | General – Landfill       |  |  |  |  |  |  |  |  |
| 23             | SWMU 54   | Landfill        | В        | General – Landfill       |  |  |  |  |  |  |  |  |

- VII.K.3. Upon discovering any deterioration or malfunction the Permittee shall perform corrective action as required by UAC R315-8-2.6(c). Corrective action shall be conducted as soon as practicable from the time the problem is discovered. If corrective action is extensive or will require more than 30-days to complete, the Permittee shall provide a corrective action schedule for approval by the Executive Secretary.
- VII.K.4. If, upon determination by the Executive Secretary or the Permittee, that any corrective action could endanger human health or the environment, the Permittee shall cease the activity until the problem has been corrected.
- VII.K.5. Records of inspections shall be kept at Dugway, as required by UAC R315-8-2.6(d).
- **VII.K.6.** The Permittee shall inspect post-closure groundwater-monitoring wells, at the frequency specified in each site-specific Attachment, as specified below:

- VII.K.6.a. Inspect for damage to the above ground casing of the well.
- VII.K.6.b. Inspect for damage to cement apron and assure that the annulus is properly sealed.
- VII.K.6.c. Check for visible damage and any tampering to locks and monitoring well caps.
- VII.K.6.d. Insure that the wells are accessible and visible.

#### VII.L. TRAINING REQUIRMENTS

The Permittee shall comply with the personnel qualification, training, and training documentation requirements, where applicable, listed in the most recent versions of the documents titled; 1) *Dugway Chemical Data Quality Management Plan (CDQMP)*, and 2) *Appendix A; Quality Assurance Program Plan (QAPP)* of this Permit. The training requirements of the CDQMP and QAPP are hereby incorporated by reference into this Permit.

Additionally, Inspectors of any Post-Closure Care Units shall be trained (documentation required), at a minimum, in the following:

- 1. Dugway's Contingency Plan
- 2. General Post-Closure Site Inspection Checklists (Forms A and B)
- 3. Site-specific HWMU/SWMU Post-Closure Inspection Checklists.

#### VII.M. PREPAREDNESS AND PREVENTION

Preparedness and Prevention measures, for each site listed in Table VII-1, shall be specified in the site-specific Attachments to this Permit, or by compliance with the Dugway Emergency Response and Contingency Plan (Part B Permit), where applicable to each site. Any modifications of this provision shall require the approval of the Executive Secretary.

#### VII.N. SAMPLING, ANALYTICAL AND QA/QC PROCEDURES

Analytical data collected under this Permit shall follow sampling, analytical and QA/QC procedures required under the *Dugway Chemical Data Quality Management Plan* (CDQMP), and this Permit (Appendix A; Quality Assurance Program Plan (QAPP)).

#### VII.O. RECORDKEEPING AND REPORTING

The Permittee shall submit reports and notifications as required in the conditions of this Permit and as specified in the Attachments for each site, to the Executive Secretary documenting post-closure inspection and monitoring activities and results from analyses of samples. Copies of all Permit-related records will be maintained in the Operating Record.

#### VII.P. POST-CLOSURE CARE

- VII.P.1. For each site listed in Table VII-1, the Permittee shall conduct all post-closure activities in accordance with the post-closure plans as specified in the corresponding Attachments and this Permit. Each post-closure plan shall include information and requirements to satisfy the requirements of UAC R315-1 through R315-101 for closure of landfills, surface impoundments, storage areas, tanks and other units. The Attachments and plans described in Condition VII.Q for each site outline groundwater monitoring, site inspection and other site-specific requirements. Types of site inspections required for each SWMU/HWMU are outlined in Table VII-3 and the corresponding post-closure inspection forms are provided as Forms A C of this Module.
- VII.P.2. Unless specified in a schedule included in the site-specific Attachment, the Permittee shall submit analytical results from all sampling activities required under this Permit within 180 days of sample collection. A report briefly describing analytical data quality shall be included with the results. If the Permittee cannot meet the 180-day requirement, the Permittee shall contact the Executive Secretary and propose an alternate schedule for approval. The proposal shall include justification for not submitting the information within 180 days.

#### VII.Q. GROUNDWATER MANAGEMENT AREAS

- VII.Q.1. The Permittee shall manage and monitor groundwater and complete other activities as described in the documents titled Final Hydrogeological Assessment and Regional Groundwater Monitoring Plan, Volumes I-IV, Ditto Groundwater Management Area, (Ditto GMA), Carr GMA, Downrange GMA and English Village GMA, and as described in the Attachments to this permit. The Final Ditto, Carr, Downrange and English Village GMAs are incorporated by reference into this permit by this condition.
- VII.Q.2. The Permittee shall provide for approval by the Executive Secretary, a report of all specified activities completed during years 0, years 1-5 and out-years as described in the Ditto, Carr, Downranage and English Village GMAs. These reports shall include data evaluations and conclusions, proposed well locations, groundwater elevation measurements and evaluations, sample results, or other information described in the Ditto, Carr, Downrange and English Village GMAs and the groundwater elevation quality control plan or as requested by the Executive Secretary.
- VII.Q.3. The Permittee shall provide all collected data within 180 days of each sampling, testing, data collection or well installation event, and as indicated in the Ditto Carr, Downrange and English Village GMAs.
- VII.Q.4 The Permittee shall provide one copy of all draft groundwater elevation data in searchable electronic format within 30 days of the end of each groundwater elevation measurement event.
- VII.Q.5 The Permittee shall submit any modifications to the GMA's following the procedures provided on the GMA change request form included as Form D.

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#### POST-CLOSURE SITE INSPECTION FORMS

| Site: |           |
|-------|-----------|
|       | Page 1 of |

## FORM A - GENERAL POST-CLOSURE SITE INSEPCTION CHECKLIST Industrial Closure/Industrial Use Sites Dugway Proving Ground, Utah

| 1. | List any site-specific inspection requirements outline in the Site Post Closure Plan Comments:   | n?<br> |            |
|----|--|--------|------------|
| 2. | Inspect the site and surrounding land use. Does the area remain in industrial use?   | ?      | –<br>Yes   |
|    | *If no, notify the DPG Environmental Office immediately (same business day) to determine the appropriate course of action.  Comments:  |        | No<br>     |
|    | Did Inspector review the Post-Closure plan before the inspection? Were any dig permits issued for this site since the last inspection?   |        |            |
| 3. | Are posted warning signs, security measures, and/or perimeter fencing and locks good condition and in place?   | in     |            |
|    |  |        | Yes<br>No  |
| 4. | Is there any soil disturbance in the vicinity of the site or is an orphan waste preser<br>the site? (This may also include conditions of roads up to site: significant potholes are<br>erosion.)                   |        |            |
|    |  | ]<br>] | Yes*<br>No |
|    | *If yes, verify any change to the site and describe excavation or other activities.  Notify the DPG Environmental Office immediately (same business day) to determine the appropriate course of action.  Comments: |        |            |
| 5. | Addition notes: indicate time, temperature, wind direction and other observations  |        |            |

Form A - Industrial Closure/Industrial Use Sites Only

|  | Si                    | ıte:      |
|--|-----------------------|-----------|
|  |                       | Page 1 of |
| 5. Security of Groundwater Monitoring Wells – (Cap | pped/Locks/Apron/Etc) |           |
| Name of Inspector:                                 |                       |           |
| Company:   |                       |           |
| Signature of Inspector:                            |                       |           |
| Time and Date of Inspection:                       | Site Location:        |           |

| Form B– | Landfill Sites |
|---------|----------------|
| Site:   |                |
|         | Page 1 of 5    |

# FORM B - GENERAL SITE INSEPCTION CHECKLIST Landfill Sites Dugway Proving Ground, Utah Post-Closure Plan

|        | -      | site-specific ins<br>nts:             | -     |     |     |   |    |    |   |   |   |    |            |    |    |        |    |    |          |          | -  |    |    |          |    |     |     |    |            |    |    |    |    |          |    | 1  | n<br> | 1 <del>C</del> | : ] | -  | 1  | . 1 | tl<br> | 16 | -  | <b>S</b> 1 | t<br> - | e<br> |    | _  | 0  | S  | t<br> | _  | 10         | O: | sı<br>— | ır | e<br> | P<br> | 1   |    | 1  | ?<br>  |    | _  | _  |   | _   | _ | _ | - |   |
|--------|--------|---------------------------------------|-------|-----|-----|---|----|----|---|---|---|----|------------|----|----|--------|----|----|----------|----------|----|----|----|----------|----|-----|-----|----|------------|----|----|----|----|----------|----|----|-------|----------------|-----|----|----|-----|--------|----|----|------------|---------|-------|----|----|----|----|-------|----|------------|----|---------|----|-------|-------|-----|----|----|--------|----|----|----|---|-----|---|---|---|---|
| 1.     | Purp   | ose of Inspection:                    | ;     |     |     |   |    |    |   |   |   |    |            |    |    |        |    |    |          |          |    |    |    |          |    |     |     |    |            |    |    |    |    |          |    |    |       |                |     |    |    |     |        |    |    |            |         |       |    |    |    |    |       |    |            |    |         |    |       |       |     |    |    |        |    |    |    |   |     |   |   |   |   |
|        | a.     | Routine                               |       | ]   | (   | ( | (  |    | ( | ( | ( | (  | (          | (. | 1  | Δ      | 4  | 1  | 1        | n        | n  | ıı | l  | a        | 1  | ,   | S   | Se | 21         | n  | i  | -  | a  | n        | ır | ı  | lâ    | al             | ,   | e  | 21 | to  | Э.     | .) | c  | ir         | c       | 1     | e  | C  | )1 | 10 | э.    |    |            |    |         |    |       |       |     |    |    |        |    |    |    |   |     |   |   |   |   |
|        | b.     | Contingency                           |       | ]   | (   | ( | (  | (  | ( | ( | ( | (  |            |    | S  | Si     | t  | to | C        | )1       | rı | n  | 1. | E        | ŀ  | V   | e   | n  | t,         | ]  | F  | ir | re | Э,       | I  | Ξ  | 11    | rt             | h   | q  | ι  | 1   | a      | k  | ,  | e          | tc      | ٠.    | )  | c  | iı | rc | clo   | e  | O1         | n  | e.      |    |       |       |     |    |    |        |    |    |    |   |     |   |   |   |   |
|        | c.     | Other                                 |       | ]   |     |   |    |    |   |   |   |    |            |    |    |        |    |    |          |          |    |    |    |          |    |     |     |    |            |    |    |    |    |          |    |    |       |                |     |    |    |     |        |    |    |            |         |       |    |    |    |    |       |    |            | _  |         |    |       |       |     |    |    |        |    |    |    |   |     |   |   |   |   |
| 2.     | Have   | e the inspectors co                   | omple | ete | ete | e | e  | e  | e | 9 | 2 | 2( | ec         | Ċ  | d  | l      | 1  | t  | ī        | ra       | ai | ir | ni | ir       | 1  | g   | ; 2 | as | <b>S</b> 1 | re | ec | qı | u  | iı       | re | d  | . 1   | b              | y   | ľ  | )( | e   | r      | m  | it | C          | C       | r     | 10 | li | ti | ic | n     | V  | <b>V</b> ] | II | .I      | ے? |       |       |     |    |    |        |    |    |    |   |     |   |   |   |   |
|        |        |                                       |       |     |     |   |    |    |   |   |   |    |            |    |    |        |    |    |          |          |    |    |    |          |    |     |     |    |            |    |    |    |    |          |    |    |       |                |     |    |    |     |        |    |    |            |         |       |    |    |    |    |       |    |            |    |         |    |       |       |     |    |    | Y<br>N |    |    |    |   |     |   |   |   |   |
| 3.     | Did i  | inspectors review                     | the p | po  | os  | S | os | )8 | S | S | S | S  | <b>S</b> 1 | t  | t. | ·<br>- | -( | С  | 2]       | 10       | o  | S  | u  | r        | ·e | ,   | p   | la | aı         | n  | p  | r  | i  | o        | r  | t  | )     | t              | h   | e  | i  | iı  | n      | sį | e  | C1         | i       | o     | n  | ?  |    |    |       |    |            |    |         |    |       |       |     |    |    |        |    |    |    |   |     |   |   |   |   |
|        |        |                                       |       |     |     |   |    |    |   |   |   |    |            |    |    |        |    |    |          |          |    |    |    |          |    |     |     |    |            |    |    |    |    |          |    |    |       |                |     |    |    |     |        |    |    |            |         |       |    |    |    |    |       |    |            |    |         |    |       |       |     |    |    | Y<br>N |    |    |    |   |     |   |   |   |   |
| 4.     | Are    | there open holes                      | in th | he  | ne  | e | e  | e  | Э | • | , | ;  |            | •  | S  | S      | C  | o  | <b>)</b> | <b>i</b> | 1  | t  | h  | 18       | 11 | t   | n   | n  | a          | у  | 1  | b  | e  | ; (      | c  | a  | 1     | S              | 20  | f  | 1  | b   | Ŋ      | 7  | วเ | lľ         | r       | o     | V  | vi | r  | ı  | 3     | aı | ni         | ir | n       | al | sʻ    | ?     |     |    |    |        |    |    |    |   |     |   |   |   |   |
|        |        |                                       |       |     |     |   |    |    |   |   |   |    |            |    |    |        |    |    |          |          |    |    |    |          |    |     |     |    |            |    |    |    |    |          |    |    |       |                |     |    |    |     |        |    |    |            |         |       |    |    |    |    |       |    |            |    |         |    |       |       |     |    | }  | Y      | e  | s  | ×  | ķ |     |   |   |   |   |
| If yes |        | the DPG Environ<br>with clean soil ar |       |     |     |   |    |    |   |   |   |    |            |    |    |        | •  |    |          |          |    |    |    |          |    |     |     |    |            |    |    |    |    |          |    | •  |       |                |     |    |    |     |        |    |    |            |         |       |    |    | •  |    |       |    |            |    |         |    |       |       |     |    | fi |        | li | ir |    | g | ; i | и | p | t | h |
| Comn   | nents: |                                       |       |     |     |   |    |    |   |   |   |    |            |    |    |        |    |    |          |          |    |    |    |          |    |     |     |    |            |    |    |    |    |          |    |    |       |                |     |    |    |     |        |    |    |            |         |       |    |    |    |    |       |    |            |    |         |    |       |       |     |    |    | _      | _  | _  | _  | _ | _   | _ | _ | _ | _ |
| 5.     | Are    | there noticeable                      | depr  | re  | es  | s | es | S  | S | s | S | S  | 3.5        | S  | s  | si     | i  | .( | 0        | )1       | n  | s  | (  | <b>)</b> | r  | . 1 | p   | o  | n          | ıd | li | n  | 19 | <u> </u> | C  | ıf |       | SI             | 11  | rf | f  | a   | С      | e  | v  | 78         | ıt      | e     | r  | C  | ı  | 1  | tl    | 16 | • ·        | la | ar      | ıd | fi    | 11    | . ( | 20 | יכ | V      | e  | r  | ·? | , |     |   | _ | _ | _ |
|        | -      |                                       | r     | - ' |     | - | -  |    |   |   |   |    |            |    |    |        |    |    |          |          |    |    |    |          |    | J   | 1   |    |            |    |    |    | •  | ر        |    |    |       |                |     |    |    |     |        |    |    | -          |         |       |    |    |    |    |       |    |            |    |         |    | -     | -     |     |    |    | Y      |    |    |    |   |     |   |   |   |   |
| . T. C |        | the DPG Environ                       |       |     |     | , | ,  | ,  | , | , | , | ,  |            |    | ,  |        | `  |    | ,        | •        | •  |    |    |          |    |     |     |    |            | 7  |    |    |    | ,        |    | ,  |       |                |     |    |    | ,   |        |    |    |            |         |       |    | ,  |    |    |       |    |            |    |         |    | ,.    |       |     |    |    | V      |    |    | ,  | c | .,  | , |   |   |   |

the depression with soil obtained from an approved borrow source. If signs of soil erosion are

| Form B- | Landfill Sites |
|---------|----------------|
| Site:   |                |
|         | Page 2 of 5    |

excessive (for example, cracks or rills greater than 2-inches wide and continual (recurring in the same area) corrective action may be necessary. Document significant cracks or rills that have the potential to impact the functionality of the cover system on the inspection form and attach a map showing the eroded area(s). Corrective action may include filling in the eroded or cracked area, investigation the cause of erosion, and regrading slopes. Corrective action may be needed (contact DPG Environmental Office immediately [same business day]).

| Comments:   |
|---|
| 6. Are there large (more than two inches wide) cracks or rills in the soil cover?   |
| ☐ Yes *   |
| * If yes, notify the DPG Environmental Office immediately (same business day). Note the orientation, location, and frequency of cracks, determine whether the cracks are due to desiccation or slope failure, and photograph areas of concern, if possible. |
| Comments:   |
| 7. Inspect the survey monuments. Are they intact and legible?   |
| Yes  No *  * If no, notify the DPG Environmental Office immediately (same business day) to determine the appropriate course of action for repair.   |
| Comments:   |

| Form B- | Landfill Sites |
|---------|----------------|
| Site:   |                |
|         | Page 3 of 5    |

| 8.         | Inspect the survey monuments. Is there evidence of erosion or s vicinity of the monument (ponding, cracks, rills, or uneven terra                          |                  | in the                  |
|------------|--|------------------|-------------------------|
|            |  |                  | Yes *                   |
|            |  |                  | No                      |
| * If yes,  | notify the DPG Environmental Office immediately (same busine appropriate course of action for repair and resurvey the settlem                              | • /              |                         |
| Comme      | nts:   |                  |                         |
|            |  |                  |                         |
| 9.         | Is re-surveying of monuments necessary, based on the time since installed or the answer to Questions 7 & 8 above (i.e, is there vis significant settling)? |                  |                         |
|            |  |                  | Yes *                   |
|            |  |                  | No                      |
| Comme      | in any direction from the coordinates listed in the appropriate statachment and to establish magnitude of movement.  nts:                                  | iie-speciji      | c Module VII            |
| 10.        | Have any trees, shrubs or other vegetation grown on the landfill   | cover?           |                         |
|            |  |                  | Yes *                   |
| * If yes,  | notify the DPG Environmental Office immediately (same business day $tree(s)$ or $shrub(s)$ .   | □<br>) concernii | No<br>ng removal of the |
| Comme      | nts:   |                  |                         |
|            |  |                  |                         |
| 11.        | Are posted signs in place and in good condition (legible)?   |                  |                         |
|            |  |                  | Yes                     |
| * If no, i | mark location(s) of damaged or missing signs and notify the DPG Envior   | ∐<br>ironmental  | No *<br>Office          |

| Form B– | Landfill Sites |
|---------|----------------|
| Site:   |                |
|         | Page 4 of 5    |

|                 | Inspect areas that channel water runoff at the site, including Are there signs of excessive erosion (rutting 1-ft wide by 1-runoff?                                  |                           |                           |
|-----------------|--|---------------------------|---------------------------|
|                 |  |                           | Yes *                     |
|                 |  |                           | No                        |
| * If y          | es, notify the DPG Environmental Office immediately (same bappropriate course of action for repair.  | ousiness day) i           | to determine              |
| Comn            | nents:   |                           |                           |
| 13.             | Inspect the access road leading to the site. Are there signifi   | cant potholes             | and/or                    |
|                 | erosion?   |                           |                           |
|                 | erosion?   |                           | Yes *                     |
| * <i>If</i> y   | erosion?  es, notify the DPG Environmental Office immediately (same be appropriate course of action for repair.  | □<br>□<br>pusiness day) i | No                        |
| * If y          | es, notify the DPG Environmental Office immediately (same bappropriate course of action for repair.  |                           | No                        |
|                 | es, notify the DPG Environmental Office immediately (same b<br>appropriate course of action for repair.  |                           | No                        |
| Comn            | es, notify the DPG Environmental Office immediately (same b<br>appropriate course of action for repair.<br>nents:  |                           | No<br>to determine<br>Yes |
| Comn            | es, notify the DPG Environmental Office immediately (same be appropriate course of action for repair.  ments:  Were there any problems obtaining access to the site? |                           | No<br>to determine        |
| Comn            | es, notify the DPG Environmental Office immediately (same be appropriate course of action for repair.  ments:  Were there any problems obtaining access to the site? |                           | No<br>to determine<br>Yes |
| Comn  14.  Comn | es, notify the DPG Environmental Office immediately (same be appropriate course of action for repair.  ments:  Were there any problems obtaining access to the site? |                           | No<br>to determine<br>Yes |

Form B- Landfill Sites
Site: \_\_\_\_\_
Page 5 of 5

| 16. Additional Notes (Time, temperature, wind direction, and other observations) |                             |
|--|-----------------------------|
|  |                             |
|  |                             |
|  |                             |
|  |                             |
|  |                             |
|  |                             |
|  |                             |
|  |                             |
|  |                             |
| Name of Inspector  |                             |
| •  |                             |
|  |                             |
|  |                             |
| Company  |                             |
|  |                             |
|  |                             |
| Signature of Inspector   | Time and Date of Inspection |
|  |                             |
|  |                             |
| Site Name  |                             |

# FORM C PART 1- GENERAL POST-CLOSURE SITE INSPECTION CHECKLIST HWMU 2 Waste Pile at North End of Granite Peak Dugway Proving Ground, Utah

NOTE: <u>This is a three-part form</u>. Please ensure all three parts (general inspection, vegetative cover and emergency response sections) of Form C are completed.

| 1.         | Does the soil cap appear to be disturbed or damaged?  |               | Yes<br>No |
|------------|---|---------------|-----------|
| Comme      | nts:  |               |           |
| 2.         | Are there open holes in the soil that may be caused by burrowing animals?   |               | Yes *     |
| *If yes, j | fill up the hole with clean soil  | Ш             | NO        |
| Comme      | nts:  |               |           |
|            |   |               |           |
| 3.         | Are there noticeable depressions or ponding of surface water on the lar   | ndfill cover' |           |
| *If yes, i | backfill the depression with the soil type described in Appendix B of the Post<br>seems excessive and continual, corrective action may be needed (cont<br>immediately [same business day]). |               |           |
| Comme      | nts:  |               |           |
| 4.         | Are there large (more than 2 inches wide) cracks or rills in the soil cov   | er?           | V *       |
| * If yes   | , notify the Dugway Environmental Office immediately (same busine location, and frequency of cracks, and photograph areas of conc   | • .           |           |
| Comme      | nts:  |               |           |
|            |   |               |           |

5. Have any trees or shrubs grown on the landfill cover?

Form E (PARTS 1, 2, and 3) - HWMU 2 Page 2 of 8 Yes No Is there excessive vegetation (large stalks that would impede surface water flow) in the 6. swale (drainage ditch)? Yes No Comments: 7. Are posted signs in place at least every 50 feet along the fence and in good condition (legible)? Yes No \* \* If no, mark location(s) of damaged or missing signs and notify the Dugway Environmental Office immediately (same business day) for repairs or replacements. Comments: 8. Is the landfill adequately secured by a perimeter fence in good condition? Is the lock still in-place and undamaged? П Yes No \* \* If no, secure (with locks obtained from the Dugway Environmental Office) perimeter fence. If the fence is damaged, mark location of damage and notify the Dugway Environmental Office immediately (same business day) for repairs. Comments:

Yes \* No

Inspect areas that channel water runoff at the site, including ditches and slope edges. Are there signs of excessive erosion (rutting 1-foot wide by 1-foot deep) from storm water runoff?

9.

<sup>\*</sup> If yes, notify the Dugway Environmental Office immediately (same business day) to determine the appropriate course of action for repair.

| Comments:  |                |                       |
|--|----------------|-----------------------|
| 10. Inspect the all-weather access road leading to and around the HWMU 2 si significant potholes and/or erosion?     | te. Are there  |                       |
|  |                | Yes *                 |
|  |                | No                    |
| * If yes, notify the Dugway Environmental Office immediately (same business day) of action for repair                | to determine   | the appropriate cours |
| Comments:  |                |                       |
| 11. Inspect the settlement monuments. Are they intact and legible?   |                |                       |
|  |                | Yes                   |
|  |                | No *                  |
| * If no, notify the Dugway Environmental Office immediately (same business day) of action for repair.                | to determine t | he appropriate course |
| Comments:  |                |                       |
| 12. Inspect the four monitoring wells. Is there any damage to the above-ground apron, annulus, locks, and well caps? | nd casing, cem | ent                   |
|  |                | Yes *                 |
|  |                | No                    |
| * If yes, notify the Dugway Environmental Office immediately (same business day) of action for repair.               | to determine   | the appropriate cours |
| Comments:  |                |                       |
|  |                |                       |
| Additional Notes (Time, temperature, wind direction, and other observations)   |                |                       |
|  |                |                       |
|  |                |                       |
|  |                |                       |
| ·  |                |                       |
|  |                |                       |
|  |                |                       |

| Form E (PARTS | 1, 2, | and | 3) - HWMU 2 |
|---------------|-------|-----|-------------|
|               |       |     | Page 4 of 8 |

| Name of Inspector      | _                           |
|------------------------|-----------------------------|
| Company                | _                           |
| Signature of Inspector | Time and Date of Inspection |

# FORM C, PART 2: VEGETATIVE COVER POST-CLOSURE INSPECTION CHECKLIST HWMU 2 Waste Pile at North End of Granite Peak Dugway Proving Ground, Utah

| 1. Are          | there areas of stressed or missing vegetation on landfill cover?   |                  |               |
|-----------------|--|------------------|---------------|
|                 |  |                  | Yes *         |
|                 |  |                  | No            |
| * If yes, re-es | tablish vegetative growth by watering or reseeding in accordance with A  |                  |               |
|                 | Report), of this Post-Closure Plan. Seeding should take place during to establishment of vegetation.                               | he season that v | vill optimize |
|                 | establishment of vegetation.   |                  |               |
| Comments:       |  |                  |               |
| Comments.       |  |                  |               |
|                 |  |                  |               |
| 2.              | Are there known areas of continual poor growth despite reseeding effor   | te?              |               |
| 2.              | The there known areas of continual pool growth despite resecting error   |                  | Yes *         |
|                 |  |                  |               |
| * If was and    | the areas appears to be affecting the integrity of the soil cover, co  | untoct the Duc   | No            |
| · II yes allu   | Environmental Office immediately (same business day).  | mact the Dug     | way           |
|                 | Environmental office immediately (same business day).  |                  |               |
| Comments:       |  |                  |               |
|                 |  |                  |               |
|                 |  |                  |               |
| 3. Hav          | e invasive or deep-rooting species that may penetrate the cap taken root   | on the cap soil  |               |
| cove            |  | 1                |               |
|                 |  |                  | Yes *         |
|                 |  |                  | No            |
| Invasive spec   | ies in this area include cheat grass.  | <del></del>      |               |
| * If was ide    | ntify the offeeted area and absorpted plant appairs, develop a strate  | ari ta mamaria   | the investive |
| " If yes, ide   | ntify the affected area and observed plant species, develop a strate plants (permanently if possible), and make recommendations to |                  |               |
|                 | Office. One recommended approach is to spot spray the species  | ~ .              |               |
|                 | approach may take up to 4 days, depending on the extent of remo  |                  |               |
|                 | out. Inspect the area every 2 weeks following removal to ensure returned.  |                  |               |
|                 |  |                  |               |
| Comments:       |  |                  |               |

| Additional Notes (Time, temperature, wind direction, and other observations) |  |  |
|--|--|--|
|  |  |  |
|  |  |  |
| ,  |  |  |
|  |  |  |
|  |  |  |
| Additional Notes (Time, temperature, wind                                    | d direction, and other observations) (Continued) |  |
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| Name of Inspector  |  |  |
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| Company  |  |  |
|  |  |  |
| Signature of Inspector   | Time and Date of Inspection                      |  |
| Digitature of hispector  | Time and Date of inspection                      |  |

### FORM C PART 3 - EMERGENCY RESPONSE POST-CLOSURE INSPECTION CHECKLIST

## HWMU 2 Waste Pile at North End of Granite Peak Dugway Proving Ground, Utah

| 1. Are there large (more than 2 inches in width) cracks in the soil cover?  |                                  |
|---|----------------------------------|
| * If yes, notify the Dugway Environmental Office immediately (same business day the cracks are due to desiccation or slope failure.   | Yes * No y) to determine whether |
| Comments:   |                                  |
| 2. Are there notable depressions or ponding of surface water on the landfill cov  | Yes *                            |
| * If yes, backfill depression with soil type described in Appendix B (HWMU 2 Closure Rep cap, as shown on Figure 2-4. Where soil erosion seems excessive and conti may be needed (contact the Dugway Environmental Office). |                                  |
| Comments:   |                                  |
| 3. Are posted signs in place and in good condition (legible)?   | Yes                              |
| * If no, document location(s) of damaged or missing signs and notify the Dugway immediately (same business day) for repairs or replacements.  | No * Environmental Office        |
| Comments:   |                                  |
| 4. Do the settlement markers indicate any significant horizontal or vertical movemen Figure 2-4 of the Post-Closure Plan.   | nt? See                          |
| * If yes, contact the Dugway Environmental Office immediately (same business date)  | Yes * No av) to arrange          |

resurveying to establish magnitude of movement.

| Comments:                                   |                                    |
|---|------------------------------------|
| Additional Notes (Time, temperature, wind a | direction, and other observations) |
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| Name of Inspector                           |                                    |
| Company                                     |                                    |
| Time and Date of Inspection                 | Signature                          |

#### GROUNDWATER MANAGEMENT AREA (GMA) CHANGE REQUEST

This GMA Change Request Form shall be used by contract and/or Dugway Proving Ground (Dugway) personnel responsible for implementing Dugway GMAs. This form shall be used for all editorial and/or technical modifications to a State-approved GMA. In certain field circumstances it may be necessary for Dugway to render a minor GMA change in order to continue GMA activities at duty times outside Division of Solid and Hazardous Waste (DSHW) hours of operation. In this instance the Change Request process will be followed to provide "notice" in lieu of "request". All approved modifications will be incorporated into the GMAs as Errata.

Section I outlines the Standing Operating Procedures (SOPs) that shall be followed when using a GMA Change Request Form. Section II contains the GMA Change Request Form.

#### I. Standing Operating Procedure (SOP)

- I.A The following procedures shall be followed for all requests:
  - 1. The GMA Change Request Form must be completed in its entirety. Incomplete request forms will be rejected by Dugway review personnel.
  - 2. Follow the Form Completion Instructions when filling out a GMA Change Request Form.
  - 3. Completed GMA Change Request Forms along with draft change pages to the GMA in redline/strikeout format shall be submitted to Dugway Environmental Programs for review and approval.
  - 4. Dugway shall submit the completed and approved GMA Change Request Form and any change pages to the Division of Solid and Hazardous Waste (DSHW) under a signed, official cover letter.
  - 5. Dugway and contractors shall not implement any changes until the DSHW has provided approval of the GMA change request.
- I.B Instructions for each section of the form are provided below:
  - 1. Provide a unique GMA Change Request number in the footer the form.
  - 2. Provide the page number and total number of pages in the header of the GMA Change Request Form.
  - 3. Provide the name of the GMA for which the request is being submitted in Section II.A.
  - 4. Provide the date of the GMA change request in Section II.B.

- 5. Provide a brief summary of the issue that requires change in the GMA in Section II.C. This information shall include a summary of the current GMA process and why a change to this process is needed.
- 6. In Section II.D, discuss the proposed solution/change. Identify whether the change could impact any other procedures outlined in the GMA. Sufficient information shall be provided to allow Dugway to make changes to the GMA in redline/strikeout format.
- 7. Obtain the signature and date of the USACE representative indicating that USACE was notified of this proposed change to a GMA.
- 8. Obtain the signature and date of a Dugway representative with authority to approve the GMA change request.

#### II. **GMA Change Request Form**

| II.A. | GMA Name:          |
|-------|--------------------|
|       |                    |
|       |                    |
| II.B  | Date of Request:   |
|       |                    |
| II.C  | GMA Issue:         |
| 11.0  |                    |
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| II.D  | Proposed Solution: |

| II.E | United States Army Corps of Engineers (USACE) Notification |      |
|------|--|------|
|      |  |      |
|      | USACE Representative Signature                             | Date |
|      | USACE Representative Print Name                            |      |
| II.F | Dugway Approval  |      |
|      |  |      |
|      | Dugway Representative Signature                            | Date |
|      |  |      |
|      | Dugway Representative Print Name                           |      |

#### **EXCAVATION PERMIT COORDINATION FORM E**

This Excavation Permit Coordination Form shall be used by contract and/or Dugway Proving Ground (Dugway) personnel prior to beginning any excavations. This form shall be used to ensure that proposed work conforms to Dugway Regulation 405-70.

Section I outlines the Standing Operating Procedures (SOPs) that shall be followed when obtaining an Excavation Permit. Section II contains the Excavation Permit Coordination Form.

#### **III.** Standing Operating Procedure (SOP)

#### I.A Procedures:

- a. The Requester shall begin the process for an excavation permit as early in the development of the project as possible to assure the acceptability of the proposed work and site and to avoid complications from approval delay.
- b. The process begins with forwarding an e-mail or memorandum request to the BASEOPS Contractor. The request will indicate any critical time constraints and be accompanied by three items:
  - 1) A detailed map of the area showing where the undertaking will occur.
  - 2) A larger scale small map or sketch showing dimensions and depth of the proposed excavation along with distances and orientations from local landmarks.
  - 3) Name, telephone number and email (if applicable of a point of contact designated by the Excavation Requester.
- c. Within three (3) working days of receipt of these documents, the BASEOPS Contractor shall forward these documents to appropriate reviewers with suspense for comments.
  - I) For areas east of Five (5) Mile Hill the BASEOPS Contractor will staff and coordinate with the BASEOPS Contractor internal utility specialists, the Information Management Communications office, the Directorate for Environmental Programs (DEP), the private utility providers and the Master Planner to complete the "Excavation Permit

Coordination" form.

- 2) For areas west of 5 Mile Hill the BASEOPS Contractor will staff and coordinate with the same group as east of 5 Mile Hill plus the Compliance Office, the Tech Escort Unit and the West Desert contracting Officer Representatives (COR) staff to complete the "Excavation Permit Coordination" form.
- d. The reviewers will be provided two weeks to review the request documents. At the end of that time, a signed approval form or detailed explanation of the problems and issues will be due back to the BASEOPS Contractor.
- e. When problems are encountered that would preclude the timely approval of the excavation permit, notification will be given to the Chief, Installation Support Division, who will arrange for a meeting between the interested parties to resolve the problems.
- f. If resolution is not obtained during the above meeting, the Chief, Installation Support Division will take the issue to the Command Group for resolution.
- g. Once all Reviewer concerns are resolved, the BASEOPS Contractor will prepare an approval form for signature by the Chief, Installation Support Division and return a copy to the Requester upon completion.
- h. After notification of approval of the excavation permit, the requestor will notify the blue stake teams of the projected start dates. A 48-hour advance notice is needed so that the blue staking can be in place prior to start of the excavation. The requestor has the responsibility to mark the extents of the excavation and to protect the markings through blue stake procedures and excavation.
- i. In cases of emergency (and unforeseeable situation a risk to human life or health, a critical breakdown which will cause extensive additional damages if delayed, or a work stoppage on a critical test) a verbal excavation request approval may be obtained through concurrence from the Chief, Installation Support Division, the Director for Information Technology and the Installation Compliance officer. A follow up request for written excavation permit must be processed, however, during the next working day to cover the work.
- j. An approved Excavation Permit will be valid for a period of one year. An extension of this period can be granted if a site visit determines no indications of additional hazards having been introduced to the site, and the excavation remains within the original approved area.

- k. An excavation permit for a new project within the limits of a previous metal sweep can be granted without an additional metal sweep if a site visit produces no indications of additional hazards having been introduced to the site.
- I. In the event that changing conditions are anticipated which would nullify the original determination of suitability, a reviewer can explain the situation and request that the permit be issued with a clause indicating that a final check of that condition be scheduled with the reviewer within the last two weeks prior to anticipated start of the excavation.

**Exemptions**: The following are the only approved excavations that can be performed without an approved excavation permit.

- a. Removal of material from an existing gravel pit or borrow pit, within the marked limits of a previously cleared excavation permit is exempt from the requirement to obtain a new excavation permit
- b. Excavations within the marked limits of a previously cleared excavation permit are exempt from the requirement to obtain an additional metal sweep.
- c. Repairs to a broken underground utility line where the location is clearly indicated and no additional utilities have been placed over the line and no hazards have been introduced to the area since the construction of the line.
- d. Recovery of test munitions on a designated clean range when recovery of such rounds was addressed in the test plan and agreed upon by safety and the environmental office.
- e. Excavations within the road shoulder area (though not adjoining berms) of the cantonment areas of English Village, Ditto, Avery and Baker. Work can proceed only after the BASEOPS Contractor utility shops, all private utility providers and the Communications Office have given a blue stake clearance.
- f. The placement of fences in the housing area and gardening or landscaping work in the English Village area. Work can proceed only after the BASEOPS Contractor utility shops, all private utility providers and the Communications Office have given blue stake clearance. Help in obtaining this blue stake approval can be obtained from the Installation Support Division after approval to perform this work is obtained from the housing office.
- g. The placement of stakes and wire flags as part of an ongoing survey anywhere on the installation as long as the individuals doing the survey have been trained by the Compliance

Office in the recognition and response to uncovered hazards and the Compliance Office concurs in writing that the area to be surveyed is safe to proceed without a metal sweep.

#### I.B Responsibilities:

- a. Chief, Installation Services Division. The Chief, Installation Support Division is responsible for reviewing and authorizing all excavations that take place on the installation. The Chief, Installation Support Division is responsible to assure that equipment operators for his or her contracts that are involved in excavations west of 5 Mile Hill have been trained by the Compliance Office in the recognition and response to uncovered hazards.
- b. BASEOPS Contractor: The BASEOPS Contractor is responsible to receive the initial excavation permit request, perform needed coordination in a timely manner, forward the completed excavation permit to the Chief, Installation Support Division for signature, advise requesters of current status and forward the signed excavation permit to the requester. The BASEOPS Contractor will also perform the review for utility line conflicts and as needed provide for marking of the locations of buried utility lines on site.
- c. Excavation Requester: The Requester is responsible to assure that a request for excavation permit is forwarded to the BASEOPS Contractor, assure that no excavation is begun before the excavation permit has been approved and assure that the site is properly marked to assure the permit can be processed. (The process for approval can take 30 days or more; so sufficient lead-time needs to be provided). The Requestor will also, once the permit is approved, will contact the blue stake teams (ITM and BASEOPS Contractor) a minimum of 48 hours prior to the scheduled start of excavation to permit time for the blue staking to occur. The Requestor is also responsible to protect to protect the blue stake markings through the excavation process.
- d. Compliance Office: The Compliance Office is responsible to review all excavation permit requests and determine which proposals require metal sweeps and which require lab analysis of the soil. The Compliance Office is also responsible to provide training to earth moving equipment operators on recognizing and avoiding buried hazards.
- e. Chief, Information Technology Division: The Information Technology Office is responsible to review all excavation permit requests and determine which proposals require blue staking for communications lines. This office is also responsible to perform this blue stake identification to protect own assets. The Information Technology Office is responsible to assure that equipment operators from own crews and from own contracts that are involved in excavations west of 5 Mile Hill have been trained by the Compliance Office in the recognition and response to uncovered hazards.

- f. Director, Environmental Programs Office: The Directorate for Environmental Programs (DEP) is responsible to review all excavation permit requests and determine which proposals require cultural or natural resources area approval, which require contamination clean up and what level of NEPA documentation that will be required for each. The DEP is responsible to assure that equipment operators for their contracts that are involved in excavations west of 5 Mile Hill have been trained by the Compliance Office in the recognition and response to uncovered hazards.
- g. The Installation Master Planner: The Master Planner is responsible to review all excavation permit requests to confirm that proposed work conforms to the installation master plan and requires no additional planning board approvals.
- h. Chief, MID COR Office: The WD COR Office is responsible to task the Test Augmentation Contractor to perform metal sweeps, soil sample collection and removal of buried metal in support of the excavation permit process on a funding tasking basis. The WD COR Office is responsible to assure that Test Augmentation Contract equipment operators involved in excavations west of 5 Mile Hill have been trained by the Compliance Office in the recognition and response to uncovered hazards.
- i. Chief, WD Analytical Branch: The WD Analytical Branch is responsible to perform analysis of soil samples for explosive and chemical residues, as required, to confirm the acceptability of proposed sites in risk areas.
- j. Chief, WD Test Operations Division: The Chief, MID Test Operations Division is responsible to assure that internal equipment operators involved in excavations west of 5 Mile Hill have been trained by the Compliance Office in the recognition and response to uncovered hazards.
- k. Private Utility Provider: All private utility providers shall obtain needed excavation permits as a requester, to support their own needed excavations. In addition each will provide blue stake support for others excavations located near their lines.

#### II. EXCAVATION PERMIT COORDINATION FORM

| DPGR 405-70                           |                |  |
|---------------------------------------|----------------|--|
| Permit number:                        |                |  |
| Project description:                  |                |  |
|                                       |                |  |
| Date:                                 | POC:           |  |
|                                       |                |  |
| Phone:                                | E-mail:        |  |
|                                       |                |  |
| Safety Review                         |                |  |
| Is a metal sweep required?            |                |  |
| Is a soil analysis required?          |                |  |
|                                       |                |  |
| Signature                             | Date:          |  |
|                                       |                |  |
| <b>Utility Review</b>                 |                |  |
| Is an underground electrical blue s   | take required? |  |
| Is a water line blue stake required?  | ·              |  |
| Is a sewer line blue stake required:  | ?              |  |
| Is a fuel line or tank blue stake req | uired?         |  |
|                                       |                |  |
| Signature                             | Date:          |  |
|                                       |                |  |

**Communication Line Review** 

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